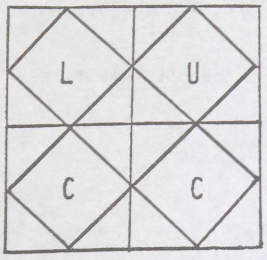
7-26-1976

User Services External Report

Lehigh University



USER SERVICES EXTERNAL REPORT

LEHIGH UNIVERSITY COMPUTING CENTER

CDC 6400 (CM65K, ECS125K, SCOPE 3.4.4), VARIAN 620/f

Vol. IV, No. 1

July 26, 1976

Operating System Upgrade

On July 26, 1976 the operating system will be upgraded from SCOPE 3.4.3 to SCOPE 3.4.4. At the same time, the time-sharing system will be upgraded from INTERCOM 4.4 to INTERCOM 4.5.

Extensive testing of the two systems has shown this to be a nearly invisible change to the user. Unlike previous changes, most of the differences between the systems are internal enhancements and represent corrections of many of the problems reported in SCOPE 3.4.3.

CDC has released SCOPE 3.4.4 as the last major upgrade of the SCOPE operating system. Future changes to SCOPE will be made primarily when it is necessary to correct reported problems. The CDC control card and command structure for SCOPE and INTERCOM can be considered frozen as of this release.

CCUC-7

The Computing Center supported the attendance of several Lehigh faculty members at the Seventh Annual Conference on Computers in the Undergraduate Curriculum recently held in Binghamton, New York. Those attending the conference included Dr. Stanley Johnson, Dr. Jacob Kazakia, Dr. Celal Kostem, and Dr. Gregory McAllister. Hugh McFadden (Educational Coordinator) attended as the Computing Center's representative.

The papers presented at this conference, and the many formal and informal meetings of attendees, covered a wide range of computer applications in the academic disciplines. Faculty members are urged to contact those who attended this conference for specific information on computer-based learning applications being used in their respective disciplines.

The Computing Center has in its publications' library a copy of the 1976 Conference Proceedings. Copies of the proceedings for the previous six conferences should be received within a month. These proceedings will prove to be an invaluable source of information on work that is being conducted in computer-assisted and computer-managed instruction on campuses throughout the United States and Canada. A copy of any of the seven proceedings will be made available to interested faculty members for a one week loan period. If you are interested, please contact User Services, Room 119 Packard Laboratory.

CONDUIT

The Computing Center has recently become a subscribing member of the CONDUIT services. CONDUIT is an organization, supported by the National Science Foundation, whose purpose is to facilitate use of instructional computing at the collegiate level. CONDUIT seeks to accomplish this purpose by providing instructors with ideas, curriculum materials, and information about instructional computing, and by encouraging instructors or development teams to produce learning materials that are useful to educators at other schools. CONDUIT activities are directed at demonstrating that widespread distribution and use of computer-based ideas are possible and beneficial.

In the coming weeks, the Computing Center will be receiving a wide variety of CONDUIT literature. Included in this material will be CAI State of the Art Reports, a CAI Activity Report, the CONDUIT Catalog of Reviewed and Tested Curriculum Materials, CONDUIT Documentation Guidelines, and Technical Transport Guide. The Educational Coordinator will be responsible for disseminating this material to interested faculty members. Those desiring additional information on CONDUIT services, or on the materials that the Computing Center has in-house, should contact Hugh McFadden, Room B11 Christmas-Saucon Hall, extension 2271.

USER Publication Schedule

Depending on the availability of newsworthy material, USER is published on a monthly basis during the academic year and once (July) in the summer.

Beginning with this issue of USER, each publication will be noted by volume and number. Since USER was first published in December 1973, the July 1976 issue has been identified as Volume IV, Number 1.

FROM THE LIBRARIAN

New Programs

- COPYASC - Copy Utility (J90048)

  COPYASC is a control card callable utility which may be used to copy ASCII-95 and ASCII-256 format data files to and from an INTERCOM terminal.

- SENSAVE/SENRST - SENATOR Utilities (J90047)

  SENSAVE allows the user to catalog the two special files that SENATOR uses to maintain the "current file" information.

  SENSAVE is used in the event that a terminal session time limit is reached.

  SENRST allows the user to retrieve the two special files, CATALOGed by SENSAVE, once the user has logged in again.

- CONTOUR - Contour Plotting (J50008)

  CONTOUR provides the user with a fast and relatively easy to use routine for producing CALCOMP contour maps from a rectangular grid of elevations.

- SIFT - Convert FORTRAN II Programs to FORTRAN IV Extended

  With the installation of the University of Washington's RUN compiler, FORTRAN II is no longer supported on the LUCC system. The utility SIFT is available to convert FORTRAN II programs to FORTRAN Extended. The deck set-up for SIFT is as follows:

```
LUCC Job Card
SIFT.      -or-      SIFT(P=PUNCH)
789
           FORTRAN II deck
EOF
```

  It is suggested that SIFT be executed without the P=PUNCH parameter for the first pass. This will generate a SIFTed listing showing all of the changed lines of code. If the listing seems to be appropriate, the job should be rerun using the P=PUNCH parameter to obtain a deck copy of the converted program.

Modified Programs

- BMD's - UCLA Biomedical Statistics Programs

  Due to a system enhancement, certain of the BMD programs may require slightly more central memory to execute. Those BMD's identified as needing additional field length are:

BMD01R	BMD06D
02S	08M
03T	08V
04D	09M
04M	10M
04V	11D
05R	12V
05T	13D

  Information on the central memory required by these programs may be obtained from User Services, Room 119 Packard Lab.

- SORT64 - SORT/MERGE - FORTRAN Interface (M10003)

  SORT64 has been rewritten correcting all known errors and adding automatic memory management. SORT64 is now callable from either RUN or FTN. The common block /CDCSORT/ in existing programs may have to be increased in some cases.

- ITEMIZE - Describes File Contents

ITEMIZE has been modified to allow the user to itemize the contents of both binary and coded magnetic tape files. The use of the C parameter on the ITEMIZE control card specifies a coded mode tape; e.g., ITEMIZE(lfn,C). If the C parameter is omitted, binary (B) mode is assumed.

Soon to be Available

... The BMD-P series of statistical programs will be installed on the system September 1, 1976. The BMD-P series is not a replacement for the existing, regular BMD programs, but rather an addition to Lehigh's statistical library.

The P series utilizes a command structure similar to that of SPSS. This series includes many statistical routines not previously available in our library. Among the routines found in this package are the following: Analysis of Repeated Measures, Cluster Analysis, Winsorized Estimates of Means, Partial Correlations, and numerous nonparametric tests. Utilities are included which provide three new robust location estimators from the Princeton study, provide maximum likelihood factor analysis, allow backward stepping in regression, and provide some 25 statistics appropriate for contingency tables and their asymptotic standard errors.

User manuals, published by the University of California Press, will be available for reference at the Inquiry Desk, and for purchase at the University Bookstore.

... DSS - Differential Systems Simulator - Version 2

DSS - Version 2 was developed to facilitate the solution of problems involving the implementation of numerical integration of the initial value type. Thus it can be used to integrate systems of initial value ordinary differential equations. Through the numerical method of lines, it also can be used to integrate initial value partial differential equation systems, and thus mixed ordinary differential/partial differential equation systems.

DSS - Version 2 was written in FORTRAN IV; its use requires that the user supply 3 FORTRAN IV subroutines. DSS - Version 2 features utilities for plotting, and for one, two and three dimensional function generation (table lookup.)

DSS will be available in two forms - one suited for use by undergraduates dealing with student-type research problems, and another designed for use in graduate research and in the solution of large-scale research problems. DSS will be available on the LUCC system early in September. Since DSS version 2 is a substitute for LEANS III and SLEANS, the latter programs will be removed from the system on January 3, 1977. Users should refer to CCNEWS for announcements dealing with the installation of this package.

Soon to be Unavailable

... As previously announced, the LIB control card will be removed from the system on July 26, 1976. The following control card formats are affected:

```
LIB,LIB,name
LIB,BMD,name
LIB,INT,name
LIB,ECO,name
```

Programs previously called in this manner, may now be called using the program name only; e.g., LIB,BMD,BMD02R. now becomes BMD02R.

... As reported earlier, AUTPLT is scheduled to be removed from the system on July 26, 1976. Users are again urged to become familiar with the multiple function plotting capabilities of QIKPLT, as this routine is AUTPLT's replacement.

SCOPE 3.4.3/3.4.4 Differences

As noted in the SCOPE 3.4.4 installation announcement, the visible user differences between 3.4.3 and 3.4.4 are minor. However, certain differences must be noted.

1. In SCOPE 3.4.4 relocatable/overlay loads will be loaded at first word address (FWA) 111_8 rather than at 101_8. This change does not apply to absolute programs created before SCOPE 3.4.4.

2. With the installation of SCOPE 3.4.4, a job running under an authorization which is not allowed permanent file space or is locked for permanent file space having been exceeded will no longer be able to RENAME a permanent file to have a non-zero retention period, or to change the authorization of an existing permanent file which has a non-zero retention period.
3. Under SCOPE 3.4.3, an attempt to ATTACH a non-existent file resulted in the message:

```
FILE NOT IN SYSTEM
PF  ABORT
```

Under 3.4.4, the error message will read:

```
FILE NOT CATALOGED      SN=SYSTEM
PF  ABORT
```

4. Under SCOPE 3.4.4, calls to the relocatable loader will cause the field length required by the program and that required by the loader to be dayfiled. This information will be dayfiled as follows:

```
CM LWA+1 = 11050B, LOADER USED  22200B
```

5. With the installation of SCOPE 3.4.4, each job's dayfile will now report the number of system requests that were made by the job. The message will be dayfiled as: NR of SYSTEM REQUEST = nnnn

   All requests from a user program to the system are made through address RA+1 of the user program, which is initialized to zero. The system Monitor frequently examines RA+1 during program execution. If RA+1 is not zero, Monitor assumes that the contents are a request for a PP program or a system action, and initiates request processing. It is the number of such requests that this dayfile message reports.

   Eventually, the number of system requests will be included in the calculation of total system seconds used by a job.

USER DOCUMENTATION

SENATOR Reference Manual

An updated version of the SENATOR Reference Manual has been prepared by the LUCC staff, and is now available for purchase at the University Bookstore. This manual includes the documentation of several new SENATOR features, and full documentation for SENATOR's EDIT mode.

Note - this is a "reference" manual, and as such is not designed to teach SENATOR to beginning users. A SENATOR USERS' Guide is being prepared with the beginning user in mind. This document is scheduled for release in early September.

Technical Bulletin #7

The Computing Center has released its seventh in a series of technical bulletins - SPSS and SCOPE Files. This bulletin is designed to introduce the SPSS user to SCOPE and to explain how SCOPE files are used by SPSS. The information contained in this bulletin will assist relatively inexperienced users in their efforts to save and retrieve SPSS data bases as SCOPE files.

LUCC Technical Bulletins may be obtained, free of charge, from User Services, Room 119 Packard Lab.

POLICIES, PROCEDURES AND OTHER MATTERS

Portacom Rental

The Computing Center owns a Portacom (portable, TTY-compatible terminal) which it makes available for loan to the user community.

The following policies governing the use of the Portacom have been approved by the User Subcommittee of the LUCC Advisory Committee. These policies were effective July 1, 1976:

1. The terminal may be borrowed for a maximum of three consecutive days, by the same responsible person. The loan may be renewed if the terminal is available.
2. A responsible person is defined as one of the following:
   (a) A faculty or staff member from Lehigh University or of any school that is a member of the Lehigh Valley Regional Computing Network (LVRCN.)
   (b) An individual approved by the Manager of User Services.

3. The responsible person must sign a request form which holds him or her responsible and liable for the repair or replacement of the Portacom if it is damaged or lost.
4. A daily rental fee of $3.00 will be charged for each day after the first 24 hours that the terminal is borrowed.

Revised Rate Schedules

New rates for Internal, External Educational, and Industrial usage became effective on July 1, 1976. Users desiring copies of the new rate schedules should contact User Services, Room 119 Packard Laboratory.

Operating Schedule

The operating schedule for the period June 1, 1976 to May 31, 1977 has been released.

The hours of operation for the fiscal year 1976-1977 will be more extensive than for the fiscal year 1975-1976 under both the Regular Hours and Extended Hours schedules. The Computing Center will be open six days a week, Monday through Saturday, with the exception of 14 holidays during the year. In addition, service will be provided on 19 Sundays during the year.

Detailed monthly schedules for both the central site in Packard Laboratory and the remote batch site in Taylor Hall are posted at each site. Users requiring detailed information on the operating schedule may contact User Services, Room 119 Packard Laboratory.

Revised Permanent File Policies

Effective July 1, 1976, the following actions relating to permanent file storage became DAILY procedures:

1. All RP=0 files are purged at approximately 7 AM. This now means that an RP=0 file that is created at 4 AM would be purged at 7 AM that same day.
2. All RP≠0 files whose expiration date was the prior day are purged at 7 AM; e.g., a file whose expiration date is July 6, 1976 would be purged at 7 AM on July 7, 1976.
3. After purging files per above procedures, authorizations are charged for all other permanent files stored on the system.

Users should note that these procedures are carried out seven days a week, fifty-two weeks a year.

Usage Statistics	May	June
Total Batch Jobs Processed	32,083	17,492
Central Site	21,512	10,358
Student RJE (Taylor Hall)	5,927	2,993
Others	4,644	4,141
Interactive Terminal Sessions	8,803	6,906
Total C. P. Time Utilized (Hours)	208.17	196.03
C. P. Hours Batch	171.59	166.62
C. P. Interactive	36.58	29.41

Software Statistics

- for the Period 1/1/76 through 5/21/76

Major Compilers:	
BASIC	11,355
COBOL	9,061
FTN (FORTRAN Extended)	30,008
PASCAL	7,174
PASCAL2	2,542
RUN (FORTRAN IV)	25,116
RUNT (Student FORTRAN)	103,358
Major Packages:	
BMD's	2,909
IMSL (Math/stat subroutines)	2,478
ISIS (Interactive Stat)	917
LEAPS (Lehigh Stat-Pak)	4,609
SPSS (Maxi and Mini Versions)	4,258